WHAT IS CLAIMED IS

1. A signal evaluation method for detecting QRS complexes in electrocardiogram (ECG) signals (4), comprising the following steps:

- sampling of the ECG signal (4) and conversion into discrete signal values (x(n)) of chronological order;
- comparing the signal values ($x_f(n)$, $x_{fq}(n)$) to a threshold function (K(n)) adaptively determined therefrom;
- determining a frequency number (D(n)) within a defined segment of consecutive signal values ($x_f(n)$, $x_{fq}(n)$), by which the signal values ($x_f(n)$, $x_{fq}(n)$) fall short of the threshold function (K(n)); and
- comparing the determined frequency number (D(n)) to a defined threshold (Θ), wherein an undershoot of the threshold (Θ) is significant for a presence of a QRS complex (5, 6, 7) in the defined segment of the ECG signal (4).

2. A signal evaluation method according to claim 1, wherein, after the sampling, the ECG signal values (x(n)) are subjected to a high-pass filtering.

3. A signal evaluation method according to claim 1, wherein, after the sampling, the ECG signals are subjected to a band-pass filtering (BP).

4. A signal evaluation method according to claim 3, wherein upper and lower limiting pass frequencies (f_{g1}, f_{g2}) of the band-pass filter are approximately 18 Hz and approximately 27 Hz.

5. A signal evaluation method according to claim 1, wherein the signal val-

ues (x(n)) are subjected to computation of an absolute value.

6. A signal evaluation method according to claim 5, wherein the signal values ($x_f(n)$) are squared for computation of an absolute value prior to comparison to the threshold function (K(n)) and determination of the frequency number (D(n)).

7. A signal evaluation method according to claim 1, wherein the value of the threshold function (K(n)) is determined adaptively from a flowing averaging of the signal values (x(n)), for an averaging period (P) given by a memory factor (λ_k).

8. A signal evaluation method according to claim 7, wherein the value of the threshold function (K(n)) is determined adaptively from a flowing averaging of the band-pass filtered and squared signal values ($x_{fq}(n)$) for an averaging period (P) given by a memory factor (λ_k).

9. A signal evaluation method according to claim 1, wherein the threshold (Θ) of the frequency number (D(n)) that is significant for a QRS complex (5, 6, 7) is variably set as an adaptive threshold from the frequency number (D(n)) itself.